

# White Paper

## Energy Consumption LIFEBOOK E781

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In order to strengthen the leadership in implementing European environmental protection regulations, Fujitsu Technology Solutions provides all important energy information about their products. With the publication of energy consumption values and the typical Annual Energy Consumption (AEC), we join the proposal from the preparatory studies for the EU Commission regarding energy using products (e.g. <http://www.ecocomputer.org>). In addition we calculate the typical energy consumption (TEC) based on ENERGY STAR® 5 certification.

Fujitsu Technology Solutions is also taking significant effort to reduce the energy consumption in data centres by providing highest energy efficiency with PRIMERGY servers. To underline these efforts Fujitsu Technology solutions joined the Green Grid and Climate Savers Computing initiatives and publishes SPECpower benchmark results for PRIMERGY servers.

### A. Web page addresses for information on Energy, Environment and End-of-life treatment

Fujitsu Technology Solutions supports important information for energy, environment and End-of-life treatment on basis of European directives and beyond, for:

Energy: <http://ts.fujitsu.com/energy>

Environment: <http://ts.fujitsu.com/environment>

End-of-life treatment: <http://ts.fujitsu.com/recycling>

### B. Software to use hardware power management

All Clients are designed to use the hardware power management potential efficiently. The defaults for the power management settings ex factory even exceed the Energy Star shipment requirements.

Settings in Microsoft® Windows® for	Desktop, Notebook	Notebook (Battery)
Turn off the display	10 min	5 min
Turn off the hard disc	15 min	5 min
Standby	20 min	15 min
Hibernating	60 min	60 min

### C. Power Consumption and typical Annual Energy Consumption for Clients

	Modes used in Energy Star calculator	power consumption for standard configuration
Power consumption: Maximum (S0*, running appl., CD in use) 1)		67.9 W
Power consumption: Idle (S0, running OS, Idle-mode)		8.26 W
	On-mode 2)	14.2 W
Power consumption: Standby (S3*, energy saving mode, WOL enabled)	Standby-mode	1.15 W
Power consumption: Minimum (ACPI status S5*, soft off, WOL enabled)	Off-mode 3)	0.7 W
Typical Annual Energy Consumption (WOL enabled) 4)		34.5 kWh/year
Heat dissipation, WOL enabled (MJ, 1 W = 3.6 kJ/h)		124.2 MJ/year
Heat dissipation, WOL enabled (kBTU, 1 W = 3.4121 BTU/h)		117.7 kBTU/year

The typical Annual Energy Consumption (AEC) is calculated similar to the energy calculator of Energy Star:  
[www.eu-energystar.org](http://www.eu-energystar.org)

1) The Maximum Mode is measured according to SYSTEST 32 of Fujitsu for PCs (to be replaced by Energy Star standard benchmarking tool when available).

2) The On-mode is determined by the proposal of the European MEEuP Product Cases Report (2005) based on the MEEuP Methodology Report for the European Commission (2005):

On-mode for Home PC is calculated by: 80% Idle, 20% full load / maximum,

On-mode for Office PC is calculated by: 90% Idle, 10% full load / maximum.

3) Display power consumption of 0.0 watt in Off-Mode realized either with 0-Watt-Power-Save-Mode on selected Fujitsu display models or switched monitor outlet on power supply unit of certain PC models.

4) Power management is set to normal. The choice of use for calculation is Home / Busy Office with the following usage patterns:

Hours / day	Consumer: Home (300 days/a)	Business: Office (260 days/a)
On-mode 2)	2	8
Standby-mode	9	2
Off-mode 3)	13	14

**Disclaimer:**

This document is informal only. All energy consumption values are achieved by laboratory testing of the system configuration listed above. Your product may perform differently, depending on your user behaviour and on the software, components and peripherals you are using. Direct comparison of values from other systems is not possible because there are no existing standards for measurement procedures and tools for maximal/ peak power consumption.

The energy consumption for Business Clients, Home PC and Displays is measured according to the measurement methods of the current Energy Star program, the international standard IEC 62301 and the established internal standard test program SYSTEST32 of Fujitsu Technology solutions for the maximum value.

The energy consumption for PRIMERGY Server is measured according to the measurement methods of the current SPECpower benchmark setup and related equipment.

This document may change without notice. Fujitsu Technology solutions will update the information in line with technical progress.

### Fujitsu platform solutions

In addition to Fujitsu LIFEBOOK E781, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

### Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

### Computing Products

[www.fujitsu.com/global/services/computing/](http://www.fujitsu.com/global/services/computing/)

### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

### More information

Learn more about Fujitsu LIFEBOOK E781, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.  
<http://ts.fujitsu.com/mobile>

### Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at <http://www.fujitsu.com/global/about/environment/>



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